CADELL'S

QUARTZ MINING PROJECT.

and

Water Company

QUARTZBURG,
MARIPOSA COUNTY, CALIFORNIA.

1853.

PREFACE.

As we have experienced considerable unnecessary delay in procuring the development of the mining resources of California, (particularly as regards quartz mining,) from the general belief entertained by capitalists and others, that extensive underground mining was required to ascertain the value of the quartz veins, I beg to take the first opportunity of stating that practical men have proved that the average produce of underground explorations, approximate as near as possible, to the average produce of the operations conducted on the out-crops. So that the value of any section of mining country can be ascertained for purposes of investment, with facility; as the value of deposits found on the out-crops is, at present, well known by practical men, conversant with the early history of California mining.

We do not consider single veins, or two or three veins situated on isolated positions, worth the attention of a wealthy company, at the present period; but confine ourselves to the locating of the country in sections, containing at least, twelve veins and upwards, on each of which, deposits of paying ore have been found. Because, we have ascertained that operating further on the small scale, confined to limited possessions, will neither prove ultimately productive, or furnish information otherwise than that which we have already ascertained. Unless, therefore, a company has a sufficient number of veins to operate upon, they cannot procure a sufficient quantity of paying ore for extensive crushing operations.

With these facts before us, and the important discoveries which have been lately made, as also the improvements which have been proposed, connected with the business arrangements of gold mining companies, I feel perfect confidence in the following project which I have the honor of presenting to the public, and which is considered by practical men, as the only safe mode of investing capital in California mining Insurance against loss is guaranteed by operating on a number of veins at one time.

CADELL'S QUARTZ MINING PROJECT.

The following gold mining project, founded on the practical experience derived from the results of the mining operations conducted in California, during a period of three years, is submitted to the consideration of capitalists, with the view of affording substantial speculators an opportunity of investing largely, without going beyond the risk of an ordinary business transaction; exhibiting, at the same time, the present position of the mines with reference to their value for investment, which has been carefully deduced from the facts which have been ascertained from practical results, and which will be found explained in such a manner as will enable the man of business to cast off any doubts he may have hitherto entertained on the subject of the California gold mines. The project is comprehended under the following particulars:

Capital is required to purchase from twelve to eighteen first class gold-bearing quartz veins, on which deposits of paying ore have already been found, in Mariposa county, in the neighborhood of Quartzburg, (where the required number of veins can be procured within a circuit of three or four miles,) with a suitable location for extensive reducing works. Capital will also be required to operate extensively on those veins, for a limited period, to ascertain the probable amount of paying ore which the mines will produce, with the view of ascertaining the extent of the reducing machinery required; and at the same time, to insure sufficient quantity of ore, turned out and in sight, to guarantee a dividend of at least one hundred per cent. on the capital advanced from the first twelve months' operations of the reducing machinery. No advance of capital would be required to pay for the machinery, as the immediate returns would be sufficient to cover the amount for that department of expenditures before the bills arrived at maturity.

The reaction which has taken place in mining speculations has, as a matter of necessity, originated the project. The cause of this reaction has been now fully ascertained. Our mining companies have hitherto commenced operations under the most extravagant arrangements, on limited possessions, and without having ascertained the probable amount of paying ore which could be procured from those mines, previous to the erection of their

machinery. The unsuccess of these companies up to the present period must, as a matter of course, create a doubt in the public mind as regards the value of the gold mines of California, which it is of considerable importance to remove; and the only practical plan of doing so, is to create a substantial company who, by taking advantage of the experience of the country, would be enabled to declare a dividend from the first twelve months' operations of the machinery—which can be accomplished by operating extensively on the mines with cheap labor, imported from the mining districts in the west of Scotland, where iron-stone miners and laborers can be procured for from one to two dollars per day, with free passage and reward on discovery of extra rich deposits—which arrangement would produce more favorable returns to the miner than the placer mines of either California or Australia, and compared with present arrangements of California mining companies, would save at least two hundred pounds sterling per day from wages, on the mining operations alone at the outset. And, as it has now been proved beyond a doubt, that by operating on a number of mines carefully, following up the deposits which have been already discovered, and selecting the ore, an increased produce of at least ten dollars per ton could be realized, as compared with the average results of present operations; so that these savings alone would amount to five hundred pounds sterling, per day—a sum sufficient to cover all the deficiences of the present system, and secure a dividend of at least one hundred per cent. on the capital advanced, from the first twelve months' operations of the machinery.

We have now proved, beyond a doubt, that unless a gold vein is operated upon extensively, and on different positions at the same time, and the paying ore carefully selected, it will not pay uniformly. All the results from extensive operations prove this to be correct. And unless the paying ore can be selected with ordinary care and skill, after being turned out at the mine, it will not pay at all. We have also proved that our best mines, which pay as high as one hundred dollars per ton and upwards, for considerable periods, when an assortment of the ore is made, will not pay over five dollars per ton, by working the vein without sorting.

Our best paying ore always shews gold visible to the naked eye. We do not find any ore to pay well, unless the gold is visible to a certain extent; and the more gold which is discernable, the greater the produce. From practice, we can tell the amount which any ore will produce—from the large scale of operations, a considerable amount of gold, however, passes off in an extremely minute state of division, which is cause of disappointment, as parties have been induced to persevere with mines prospecting a per centage of small and fine gold, depending on being able to save the whole of it, which has been found to be impossible with the present amalgamating apparatus. We have, therefore, been obliged to divide

the results of prospecting operations by a number according to the character of the ore, to arrive at the produce realizable from the large scale of operations, and shall continue to do so until we have some conspicuous improvement connected with the amalgamating process—an improvement which there is no certainty of accomplishing at any future period.

To work a mine economically, and to the best advantage, only a limited quantity of paying ore can be produced per day; as the ore, or vein of gold assumes almost every possible position throughout the quartz vein, and must be followed up by careful mining.

It is always understood, that an extra rich deposit of paying ore must be discovered on a quartz vein, before it can assume the name and character of a gold vein, or mine. It is, therefore, perfectly evident, that by operating on a number of these veins, on which deposits of rich ore have been struck, productive operations may be commenced at once, and extensive prospecting operations dispensed with. The success of any company will be, therefore, in proportion to the number of veins on which deposits have been found; which the company can command within a convenient distance from the large reducing works. These practical views are founded upon a very comprehensive principle, which admits of being acted upon at once, without squandering away time and money, operating on small quantities of ore, which amounts to nothing. The direct results of experiments cannot be taken as evidence of what a vein will produce, without a comparative view of the subject, and which is altogether without the reach of the inexperienced, of which we have daily proof. It must doubtless be erroneous, therefore, to continue experimenting on a branch of the gold business which is now well understood, and sacrifice money which might otherwise be productively employed, by submitting to the rules of experience, which are easily comprehended.

By occupying a number of gold bearing quartz veins, on which deposits of paying ore have been found, and following up these deposits by careful mining, we at once strike at the root of all the difficulties which have obstructed the course towards productive operations, and open up a field for profitable investment, which even the most sanguine speculators never dreamed of; because, although many projects have been introduced with extraordinary prospects, the projectors never really entertained the idea that they would be realizable under the ordinary chances of speculation, and accordingly held these projects as mere subjects for jobbing speculation, which has hitherto appeared a convenient mode of raising money on mining property, and which, to this period, is still persevered in, notwithstanding the exposure of several schemes of very questionable character.

When a careful selection of paying ore is made from the best mines, the rejected rock contains little or no gold realizable,

and would occasion a total loss, if machinery was occupied in crushing it. The produce of several mines is therefore required to supply extensive machinery with paying ore; otherwise, if one mine was pressed for a large quantity, extraordinary extensive operations would require to be entered upon, and persevered with, until a sufficient number of paying deposits were discovered, to warrant the erection of extensive machinery. The expense of these prospecting operations would, in all probability, exceed the first cost of the mines, which I propose for purchase. Moreover, it must not be presumed that, although a deposit has been discovered on a vein which has yielded a few hundred tons of good ore, that there is any certainty of the deposit holding out for a considerable period. It is, therefore, erroneous for companies to put down enormous works, requiring large and extensive establishments, on such limited proofs of the existence of the raw meterial. It is also erroneous to hold out prospects of realizing a proportional produce from the very largest scale of operations, with that which may have been obtained on the small scale, from a particular deposit of good ore.

It is now perfectly evident, that the difficulties connected with the quartz business, is to be found in the procuring of that description of experience which is required to locate a company where a sufficient quantity of paying ore can be procured, economically, and not as has been generally supposed, in procuring the proper description of machinery to crush and save the gold. Doubtless, it requires considerable experience to put down an extensive quartz mill which, however, is easily obtained; but to procure locating experience is more difficult under existing circumstances—as the speculators who have held the locating power over companies, have little practical experience connected with this department of the business, and without taking into consideration the responsibility, locate companies in general to suit their own interests, without reference to the results. And such has been the confidence placed in these influential parties, that reliable information has been considered by companies, the public, and the journals of the day, as schemes laid with the view of upsetting existing interests.

The following "Abstract account of Prospecting Operations" exhibits a very comprehensive view of the description of information which is required by a substantial company, previous to erecting extensive machinery. It is the result of practical enquiry; and, although it has no reference to any particular mines, may be considered as the minimum general average.

The unsuccess of the mining companies in California, has been caused by their locating without practical proofs of the amount of paying ore the mines would produce; which could not be ascertained at the commencement of California mining, from the want of practical comparative experience.

ABSTRACT OF PROSPECTING OPERATIONS WITH 145 MINERS, 5½ DAYS, ON 10 QUARTZ VEINS.

Quartz Veins.	Position on Veins.	Gross amount of quartz produced.		Amount of poor ore rejected.		Amount of paying ore.		Containing dollars per ton.	Estimated amount of gold contained in the ore.		No. of days work.	Number of miners employed.		Number of days work of one man.		REMARKS.
NO.	NO.	TONS.	TONS.	TONS.	TONS.	TONS.	TONS.		DOLLS.	DOLLS.						
1	1	120		100		20		20	400		5	20		100		The gross amount of quartz would occupy a mill crushing 100 tons per day, averaging about $5½ per ton. The amount of paying ore would occupy the same machinery 6 days, averaging about $23 per ton.
	2	55		50		5		30	150		5	10		50		
	3	30	205	20	170	10	35	60	600	1,150	5	15	45	75	225	
2	1		175		150		7	80		560	6		5		30	
3	1		215		200		15	50		750	6		20		120	
4	1	175		100		75		15	1,115		6	5		30		
	2	50	225	50	150	00	75			1,115	4	4	9	16	46	
5	1	100		100		00					5	5		25		
	2	160		150		10		300	3,000		6	4		24		
	3	202	462	200	450	2	12	500	1,000	4,000	6	10	19	60	109	
6	1	95		75		20		30	600		6	4		24		
	2	80	175	50	125	30	50	20	600	1,200	5	4	8	20	44	
7	1		70		40		30	10		300	5		4		20	
8	1	150		80		70		10	700		5	3		15		
	2	190		120		70		12	840		6	8		48		
	3	230	570	150	350	80	220	15	1,200	2,740	6	10	21	60	123	
9	1		180		100		80	12		960	6		6		36	
10	1		180		100		80	15		1,200	6		8		48	
		Tons,	2,439	Tons,	1,835	Tons,	604		Gross val.	$14,375		No. of men.	145	Days w'k of 1 man.	801	

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Comparative experience with reference to quartz mining, is that description of information derived from a practical knowledge of the various ores taken from the California mines, with their probable estimate of produce, during prospecting operations, from the usual tests on the small scale, compared with the produce which has been actually realized from the same description of ores when operated upon by machinery on the large scale. The results of the latter are less favorable than that of the former. The produce derived from prospecting must therefore be divided by a number according to the character of the ore, to arrive at the amount which will be produced from the large scale of operations, and the number must be increased according as the scale of operations increase. We find these practical facts little understood, even at the present day, as the information is of such a description as cannot be obtained theoretically for practical application; hence the erroneous statements of probable results, which the public have been induced to believe, and which I wish to counteract by exhibiting the position of the mines in such a view as will not lead to disappointment, and in a great measure lessen the reaction, which must of necessity take place, from the immediate results of California quartz mining.

With reference to the practical business arrangements connected with the project which I have had the honor to introduce, I beg to note, that suitable head quarters can be procured at Quartzburg, for the immediate accommodation of officers, workmen and general stores.

The quarz veins which a company can purchase for *cash*, are the "Washington," with its continuations, "Number Nine," "Mount Gaines," "Phœnix," "Foster," "Amelia," "Oak," "Number Sixteen," "Spring," "Sims & Turner's," "Long Mary," "Bridget," and others.

Each vein, or gold mine, previous to commencement of operations, will require to be provided with a lock-fast store and ore depot. It is to be understood, however, that no accumulation of ore is to be allowed at the mine, except during the rainy season. The works will be conducted on each mine by a workman miner, to overlook the mining operations and the separating of the ore—which must be always sorted as it is put out of the mine daily, and must on no account be allowed to accumulate without sorting.

As cheap labor is essential for extensive operations, iron-stone miners and laborers would be imported from the west of Scotland, where this class of miners are accustomed to harder work and smaller wages compared with the Cornish miners and the miners of this country; the foremen, however, would be selected from the most experienced practical working miners who have been, for a considerable period, working in the California mines. The erection of reducing works to be accomplished by contract; and

the tear and wear upheld by the contractors, for twelve months after being put in operation. These works would be conducted by working foremen over each department, viz:—the engineering, firing, feeding and amalgamating department, with a check clerk for keeping scroll accounts of the transactions of the day, including labor, materials used, amalgam and gold produced, and a diary abstracted from the foremens' memorandum books, which must all be recorded daily in the office books of the company. An engineer's and blacksmith's shop would be required, which the contractors erecting the works would be obliged to construct for their own convenience, with forges, turning lathes, boring machine, etc., which the company could purchase at a valuation, on expiration of the contract.

The "Washington" and "Number" mills, at present in operation, may be kept constantly at work ascertaining the value of the ore produced at the different mines, and the comparative results of any improvements which may be suggested, connected with the amalgamating process. These works reduce twenty tons of ore, per day.

A reservoir, for supplying water during the dry season, would require to be constructed at the source of Burn's Creek, where sufficient quantity of water can be procured for the most extensive operations; which, being in the immediate neighborhood of timber and firewood, would constitute a good location for the reducing works. Railways could be constructed from the various mines to the reducing works, at a moderate expense, as the country is of easy access. The reservoir would be constructed by contract, and the works upheld for twelve months after being completed.

A general ore depot would be required—consisting of a permanent enclosure, with a strong lockfast warehouse for securing the rich ore, and suitable weighing machines, &c., conducted by an efficient man, with assistants for unloading, piling and reloading the ore, and who will keep separate accounts for each mine. This depot must be, of course, situated as convenient as possible to the reducing works. There would be also required, a firewood depot, which would consist of covered sheds, capable of holding at least six months supply of firewood, and conducted by a foreman, with assistants to pile and measure the wood, and keep up the supplies to the firemen—keeping also, accounts of wood received and used daily. A wagon and team depot would also be required, for the convenience of stabling and sheltering the cattle and wagons, and storing hay, corn, &c.

As a complete system of stock accounts by double entry is an essential element in a well conducted business, and which has been overlooked by the mining companies, as appears from their confused statements of accouuts—I propose, therefore, to introduce the following profit and loss accounts, which will constitute a correct

system, and at all times exhibit a clear view of the results of the practical operations of the concern, and how everything has been disposed of, and also furnish particulars for the periodical states of profit and loss. The heads are as follows:

Gold mine account.	Improvements account,
Works on the gold mine, do.	Wood, or coal, do.
Ore, do,	General stores, do.
Mining, do.	Mercury, do.
Works for crushing and amalgamating, do.	Charges, do.
Crushing and amalgamating, do.	Interest and commission, do.
Gold, do	Discounts and abatements, do.
Tear and wear, do.	General profit and loss, do.
	Cashier's, do.
	Banking, do.

With reference to the subject of cheap labor, I have advised an importation of iron-stone miners and laborers from the west of Scotland, and now do so in a particular manner, with the view of preventing an extravagant precedent being established previous to the commencement of extensive operations, which cannot exist, even in California, without a firmly established system of economy—a fact which all the practical miners in quartz are perfectly aware of.

It appears that the Cornish miners at present at work in this country, only work about six hours out of the twenty-four, during which period they can realize four dollars and upwards, which amounts to about two shillings and ninepence per hour—a sum which, so far as we can judge, is not warranted from any necessity, in addition to the above pay,—the company provide tools, &c., with dwelling house.

As regards this section of the country, workmen can live as comfortably in California as they can do at home; the climate is even more healthy, and the cost of living is now only a little more than what is required to be paid in old countries—so that an economical man can always make money at two dollars per day. However, it would be the duty of a company to reward any party of miners who were fortunate enough to strike an extra rich deposit. A reward offered in this way, would be a considerable inducement for men to enter the employment of the company, and pay extra attention to their work. It would also counteract the effects from occasional rich deposits realized by the fortunate placer miners, and prevent the men from breaking engagements with the company.

Workmen are, in general, more alive to their own interests than their employers are to their own, and seldom lose an opportunity of taking advantage of circumstances. There is no delicacy of feeling on their part in taking the advantage of the resources of a wealthy company; and as there always is, on the other hand, con-

siderable feeling on the part of a company, when a reduction of wages requires to be made, which causes indecision and consequent delay, a company will be therefore more apt to allow an error to exist, than the workmen lose an opportunity of making good their position.

It requires the greatest decision possible to establish an economical system connected with any business, and prevent organization of workmen. I have had considerable experience in such matters. The course which I pursued was, to suspend operations, unless the workmen agreed to a reduction of pay, according to the value of their services and the necessities of the business.

Companies would have no difficulty in establishing a fair rate of wages at the present period, particularly as the most valuable miners at present in the country could be employed as foremen, at the commencement of extensive operations, over the strangers who would be imported into the country. If the existing evil, however, is allowed to go on, the capital of the companies will be transferred to the pockets of the workmen, who will, ultimately, organize and create difficulties which cannot properly be adjusted, without an enormous sacrifice of capital, particularly in a country such as this. Money saved by a body of men from over pay, as a natural result, will be put in operation against a reduction of wages, and certainly ought to be provided against.

Superintendents of European companies in California, overlooking economy, depend too much on the strength of their capital, and the results to be derived from crushing large quantities of ore, from limited possessions, without having previously ascertained the quantity of paying ore their mines will produce. We find them, therefore, over-estimating their prospects, with a confidence which puts all advice at defiance, and at the same time supported by a crowd of followers who confirm their views, and stamp them with the appearance of reality.

The idea of conducting any business without an economical system, ought to be questioned. It becomes, therefore, the duty of controlling parties, to provide accordingly, as without some specific system connected with quartz mining, the best of men are liable to overlook a question, which they suppose, can be ascertained at pleasure.

QUARTZBURG, MARIPOSA COUNTY,
CALIFORNIA, AUG. 1, 1853.

"THE QUARTZBURG WATER COMPANY,"

Incorporated March 1st, 1851,

FOR THE

DEVELOPMENT

OF THE

PERMANENT RESOURCES

OF

MARIPOSA COUNTY.

P. CADELL, JR.,
AGENT FOR THE COMPANY.

QUARTZBURG, MARIPOSA CO., CAL.,
MAY, 1851.

PREFACE.

THERE is a period in the history of every business which is attended with an almost certainty of success; it is more than probable, therefore, if we judge from precedents, that California Gold Mining has arrived at that period. Extraordinary resources, accompanied with earnest application, brought to bear on any subject emerging from obscurity, very soon places that subject in an entirely different position: it is not, however, during the drudgery of application to undecided operations that a uniformity of successful results can be expected, because this is the period occupied with the development of first impressions, which requires some time to accomplish. We had no reason to expect therefore uniform success from mining operations in California during the first few years of its existence, and must not therefore condemn those whose endeavors have not been attended with success. There is now, however, the most matured system of mining operations, concerning which there is only one opinion entertained by practical men, which will soon become known to the world, so that no questionable undertaking can be forced upon the public without being immediately detected. Aware of those facts, the following undertaking has been scrutenized by the most experienced men, who have pronounced the system of operations adopted by the Company, sufficiently matured and comprehensive to be carried into immediate effect. Depending, therefore, entirely on the merits of the undertaking, no particular reference will be made except through the general information of the day, accompanied with the following brief observations bearing upon the favorable position of the Company, which are presented in a particular manner to capitalists in England and Europe; because in a country such as California, where wealthy individuals can employ their capitals so advantageously as to produce immediate

returns of from 5 to 10 per cent. a month, as opportunities present themselves, it is not therefore from the California Capitalist that the Company expect to realize the large cash capital which they require, as the probable period of 18 months or more which would elapse before productive operations could be commenced, places snch descriptions of speculation out of their usual sphere of operation, although the Company can hold out a certain prospect of realizing returns which will exceed those of the most productive water works which are already in operation in California, and which have paid upwards of 10 per cent. per month on the capital advanced, from the rent derived from the water used in placer mining alone. Capital for operation in California has seldom been brought to bear directly on the development of the permanent resources of the country, so that this important subject has been left entirely to the energy of the practical miners, from capital accumulated through the medium of their own exertions in the mines, from which the California wealth has emanated, and which constitutes the best practical proof that they have pursued the proper course towards successful operations. Those principles which govern individual enterprize will be therefore taken advantage of by the Quartzburg Water Company, which will undoubtedly lead to the same and even more favorable results, when all the advantages to be derived from the additional experience and capital are brought to bear on the subject.

The Mariposa Chronicle, of date May 19th, 1854, when noticing a rich discovery lately made at Quartzburg, remarks thus:

"In any rich section of mining country in California, indi-
"vidual enterprize appears to be attended with extraordi-
"nary uniformity of success, even more so at the present
"period than during the working of the extra rich deposits
"in the early history of California mining. The California
"Placers may be now therefore considered without doubt
"to be, not what was generally supposed a mere tem-
"porary excitement, but the source of permanent produc-
"tion. The necessities of the working man in a strange
"country without funds, has enforced a simple rule which
"compels him to go at once to work, without losing time
"prospecting from place to place for large returns, which
"is the chief cause of the many discoveries which are

"daily presented to our notice, and as one instance of the "extraordinary success of individuals without any scientific "guidance for mining, further than the ability to go to "work. We notice a rich quartz discovery which Messrs. "Johnston, Summerford & Vandevenor made when en- "gaged placer mining on the Bar on Burns' Creek, imme- "diately below the town of Quartzburg. The rock taken "out exhibits indications of extraordinary richness; one "piece of the ledge, weighing about 50 pounds, is consid- "ered worth over one thousand dollars, and the gold "appears to be generally diffused throughout that portion "of the ledge which has been uncovered. This discovery, "however, is only a fractional part of the many discoveries "which have been lately made in this section of Mariposa "county, the development of which will take place on an "extensive scale so soon as the operations of the Quartz- "burg Water Company (which are expected to commence "forthwith) are completed; an undertaking which com- "prehends a system of operations organized on the most "respectable scale, for the entire development of the per- "manent resources of the county, by the introduction of "large supplies of water for Placer mining, water power "for Quartz operations, and the means of conveying lum- "ber by the water en route for those purposes from the "lumber region to the immediate neighborhood of the "mines. This undertaking appears to be extraordinary "popular both in California and abroad, as the public "presume that it will lead to a permanent system of "operations throughout the whole country."

"THE QUARTZBURG WATER COMPANY," &c.

California has now been placed in a very respectable mining position with reference to permanent production, from the successful results of the numerous Water Companies which have been established for some time, affording supplies of water to the Placers at a distanee from the permanent water courses; the companies referred to have all been organized and conducted by practical Miners engaged in the placers, and now constitute the most successful practical experiment of the day, by proving to the world that the placer gold exists in even greater abundance in the deposits formed subsequent to the first great wash. The mining ground which remains untouched is, therefore, of such an extent, as to warrant the investment of large capitals to be expended in constructing aqueducts from the head waters of the various rivers, to put those mines into productive operation. The only portions of the placers which have been partially exhausted, are those which contained the extra rich deposits from the first great wash, such as the banks and beds of rivers, creeks and ravines; also, a few flats which were of easy access from their proximity to water. Such is the present position of that department of the Gold business which has kept in advance of Quartz-mining, because the operations on the Quartz veins have been limited to the prospecting scale, caused chiefly from that description of mining property having been held almost exclusively for speculative purposes, as the mere reports of extraordinary prospects produced for a short period the same effect as if returns had been in reality realized; hence the present reaction; even the controling parties of Mining Companies of character have been afraid to act, indicating a want of confidence which could not prove otherwise than fatal to success. So soon, however, as we have water power, and a more extensive system of mining operations introduced, under economical arrangements, extraordinary permanent returns will be realized from operations connected with quartz-mining in addition to the large sum realized from the placers. The Quartzburg Water Company has been, therefore, organized on a respectable scale, with the view of affording those facilities in their most perfect form for mining purposes in Mariposa county. The practical information which we are now in possession of connected with gold mining, is of a very different character from that which existed several years ago, having from practice arrived at the knowledge of those facts which point out the precise course for wealthy mining companies to pursue towards productive operations. Hence the advantageous position of the above named Company, which renders it superfluous to take advantage of the usual routine of recommendations to facilitate its introduction to the notice of the public particularly as the undertaking at once exhibits the only system of operations through which the permanent resources of the country can be successfully and rapidly developed. The introduction of large supplies of water for placer mining, water power for quartz operations, and the conveying of lumber by the water en route for those purposes from the timber region to the immediate neighborhood of the mines, constitute the system of operatione which the undertaking comprehends; which opens up an unlimited field of operations for the working miners, and the investment of small capitals either through the medium of private companies or individual enterprize, in both placer and quartz-mining.

The company have resolved not to invest in any description of mining which will interfere with individual enterprize; but as it is still questionable whether or not the operations connected with quartz-mining is a proper field for the prudent investment of small capitals through individual enterprize, the company have determined, therefore, to operate extensively in Quartz with water power, accompanied with the most economical, and, at the same time, efficient arrangements, with the view of producing large returns; and thus exhibit to

the public the extraordinary value of those resources when capital can be brought to bear on such with the large scale of operations.

The great extent of timber country through which the aqueducts of the Quartzburg Water Company must of necessity pass, affords the company not only an opportunity of constructing their works in the most substantial and economical manner possible, but will also enable the company to supply the large quantity of lumber, at a low price, which will be required to put both the placers and quartz-mines into productive operation,—the tare and wear on which will be the source of a regular consumption of lumber, which the company will also provide for, not with the view of making a large profit from that department of the business, but to secure the most economical arrangements for the permanent working of the mines; also repairs, alterations and improvements, connected with the company's works.

The farming lands throughout the Gold region which are at present unoccupied, can be brought into successful cultivation by using the water for irrigation after being employed for mining purposes, which the Company will dispose of under certain regulations for the encouragement of agriculture, which will prove to be of considerable advantage to the mining population.

As a decided proof that the undertaking is a practical subject, I may state that the services of all the Company's officers, down to the chief workmen employed, can be discharged with Company's scrip; which arrangement will probably be taken advantage of with the view of guaranteeing the most complete system of superintendence connected with the various departments of the Company's works, and as the parties connected with the organization of the Quartzburg Water Company hold no stock for speculative purposes, but have associated themselves with no other immediate object in view, than to constitute a practical staff to assist capitalists in making their operations productive in California, with all the advantage of a State corporated company. I shall be very brief, and confine myself entirely to facts, and avoid the usual details of rich discoveries and extraordinary prospects which have never been discussed without exaggeration. With reference to the popularity of the undertaking, I may state that the importance of such to capitalists and others interested in the development of the permanent resources of California, (even although they do not hold Company's stock,) will make its progress towards completion as much the object for their solicitation as it is for the Company themselves. Our friends abroad may rest assured, therefore, that the citizens of California will confer extraordinary privileges with the view of forwarding the undertaking.

We have ascertained from the experience of the various Water Companies which have been in operation in the Northern mines on a tolerable large scale, that it will prove ultimately more economical to construct the Company's aqueducts with timber throughout the main routes, the loss of water being so great when a canal is cut in the ground, which has been the cause of several undertakings of considerable magnitude proving of little value at the commencement of mining operations; the Company's aqueducts will be, therefore, built of selected timber, from the source to the terminus, without any interruption to the floating of lumber from the timber country to the mining region.

With the view of providing every facility to individuals taking up mining claims, the Company will make a proper survey of all the mining ground in the county, and furnish charts on a very large scale; one set of which will exhibit the routes of the branch aqueducts, and the claims located so soon as they are registered, which will be open for the inspection of strangers at all the Company's offices throughout the county, where the registers for claims will be kept open.

The mining grounds in this county have been less operated upon than those of any other mining county of importance in California, from the difficulty of procuring water in the neighborhood of the numerous dry gulches, ravines and creeks, which constitute the chief placer ground, and which in this county occupy a larger surface than the more Northern, in consequence of being less mountainous; the gold is, therefore, more extensively diffused throughout the surface deposits, so that there exists an extraordinary amount of mining ground

for extensive operations sufficient to give permanent employment to a large population.

It certainly would have been extraordinary if the events of four years connected with California mining in this progressive age, had not furnished materials for improving the position of Gold Mining Companies. Upwards of fifteen millions of dollars have been expended prospecting both the Placer and Quartz mines which are as yet comparatively untouched, producing results of importance without parallel; and the chief reason why those results have not been made more public, or otherwise more generally taken advantage of, is because few have taken the trouble to compare them.

We do not expect that capitalists in either England or Europe will at once at this particular period (notorious in the history of gold mining, from the exposure of upwards of sixty fictitious Gold Mining Companies organized in London, representing a capital of upwards of three millions sterling,) place perfect confidence in any project emanating from California, and which is one cause why the Quartzburg Water Company have deviated from the regular routine adopted by other companies connected with gold mining when introducing their undertakings to the notice of the public, and substituted a thorough practical course, concerning which there is no doubt whatever, which the practical proofs we are now in possession of warrants us in asserting.

The unprecedented popularity of the Quartzburg Water Company in California, with practical men, have enabled the Trustees to appropriate $50,000 for the payment of labor, &c., (which may be considered arranged for conditionally, and subsequently to take effect provided such arrangements will not interfere with the economy of the estimates,) without being converted into money, and the remaining one Million Dollars has been disposed of to George Hudson, Esq., of Newby Park, Yorkshire, England, who has been appointed Treasurer and Representative of the Company in England and Europe; and although the extent of this transaction is trifling compared with the large amounts Mr. H. has been accustomed to negociate in England, it may lead to similar undertakings beyond the resources of private companies or individual enterprise from our more northern counties. It is of essential importance to the world, as well as California, that the whole country should be brought under a similar system of operations to that adopted by the Quartzburg Water Company, with the least possible delay, to keep up the extraordinary production of gold as long as possible, particularly when such can be accomplished at the present period with such certainty of realizing extraordinary returns on the capital invested, besides conferring such advantages on the great masses of productive laborers who are now in the country.

Capitalists of the present day have no apology whatever to allow California mining to retrogade. There is no country in the world which affords such facilities for the distribution of its waters for mining purposes, nor can there be a more ample reservoir than the perpetual snow which covers the adjacent range of the mountains stretching hundreds of miles parallel with the gold region, affording an ample supply of water, during the summer months, from the melting of the snow; nor has any country in the world given such ample proofs of its being a permanent gold-producing country; and although the capital which has been brought to bear on quartz operations has not proved productive, there is no difficulty in pointing out the cause of its non-production, which may be simply stated to be, the want of experience connected with the subject; because, if that capital had been employed in furnishing supplies of water and other economical arrangements for mining purposes a very different result would have been produced; placer mining would have been yielding larger returns, and quartz operations instead of being comparatively silent would have been in a healthy condition; hence, the objects of the Quartzburg Water Company, incorporated the first day of March, 1854. The Articles of Incorporation are as follows;

transfer of stock, shall give bonds, to be approved of by the Trustees, for the faithful performance of their duties, and the compensation of all officers and agents of the Company shall be fixed by the board of Trustees.

ART. 9. A Committee of Finance, consisting of five Trustees, shall be elected by the Board, whose duty it shall be to examine the "estimates" and make appropriations for the same; also, to cheque the books and accounts of the Company monthly, or oftener if required by the order of the Treasurer or any two of the Trustees: vacancies occurring in the Committee shall be filled as in case of vacancies in other offices.

ART. 10. No stock shall be transferable until after the completing of the main trunk aqueducts, but parties holding stock who have been put in possession of such by the Company, as compensation for labor, personal services, or other such description of value received, shall be entitled to a temporary advance from the Company (which must, however, be approved of by the Committee on Finance) until the completion of the works, when the Company shall be open to purchase the stock at the market price.

ART. 11. The annual report of the affairs of the Company shall state the amount of capital stock, together with the proportion actually paid; also, the debts and accounts, which shall be made by the Committee on Finance at the first meeting of Trustees after the annual election of the officers.

ART. 12. In the event of non-payment of installments assessed and due on the stock, the Trustees shall cause such stock to be sold in the manner prescribed by law.

ART. 13. Dividends of the profits of the Company shall be declared semi-annually, in the months of October and April, but no dividends will be declared which shall diminish the capital stock.

ART. 14. The stated meetings of the Board of Trustees shall be on the second Wednesday of every month.

In conclusion it is necessary to add a copy of Mr. Hudson's credentials, as a rapid movement must be made towards the commencement of practical work, which leaves no time for corresponding direct with California. The power granted to Mr. Hudson, by the Quartzburg Water Company, is as follows:

STATE OF CALIFORNIA, } KNOW all men by these presents, that we,
MARIPOSA COUNTY: } James Gaines, J. P.; D. M. Pool, Geo. M. Hardwick, Jacob Y. Jones and P. Cadell, Jr., Trustees for the Quartzburg Water Company, incorporated the first day of March, One Thousand Eight Hundred and Fifty-four, county of Mariposa, and State of California, have made, constituted and appointed, and by these presents do make, constitute and appoint in our place and stead, put and depute George Hudson, Esq., of Newby Park, Yorkshire, England, our true and lawful representative in Great Britain and Europe, for us, and in our names to supervise the financial arrangements of said Company in London on the most reputable scale, with full power to procure the printing of the Company's scrip, and with power also to set his hand and seal, as Treasurer of the Quartzburg Water Company, to the whole of the scrip or capital stock amounting to seventeen thousand five hundred shares, of one hundred dollars each; and further, to dispose of ten thousand shares, at par, in one or more lots to suit his convenience and the necessities of the Company. The said George Hudson Esq., is authorized also to demand, sue for, recover and receive all sums of money, and other demands whatsoever, which may be due or owing to the said Company.

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And generally all and every act or acts, thing or things, whatsoever needful and necessary to be done in and about the premises, for us, and in our names, to do, execute and perform as fully, largely and amply, to all intents and purposes, as we ourselves might or could do if personally present: Hereby ratifying, allowing all and whatsoever our said representative shall lawfully do in and about the premises aforesaid, by virtue hereof.

In witness whereof we have hereto set our hands and seals, the tenth day of March, in the year of our Lord One Thousand Eight Hundred and Fifty-four.

Signed—	JAMES GAINES, J. P., *Ch'm.*	[L. S.]
Trustees for the Quartzburg Water Company, constituting the Finance Committee.	GEO. M. HARDWICK,	[L. S.]
	J. Y. JONES,	[L. S.]
	D. M. POOL,	[L. S.]
	P. CADELL, Jr. *Gen'l Agent.*	[L. S.]

U. S. OF AMERICA,
STATE OF CALIFORNIA:
County of Mariposa:

Personally appeared before me the subscriber, a Notary Public in and for the State and county aforesaid, 10th day of March, 1854, James Gaines, G. M. Hardwick, J. Y. Jones, D. M. Pool, and P. Cadell, Jr., to me known to be the persons described in the within instrument, and who acknowledged to each that they executed the same freely and voluntarily, and for the uses and purposes therein stated.

In witness whereof, I have hereunto set my hand, and affixed my seal of office, this the day and year above written.

[L. S.]

SAMUEL H. P. ROSS,
Not. Pub. Mar. Co.

As it is not generally known what constitutes the great improvement in placer mining, which guarantees productive operations from the comparatively poor mining grounds, I may state that the improvement comprehends the formation of artificial gulches down the slopes of the mountains by an operation which the miners call "ground-sluicing," which is accomplished by using large supplies of water from aqueducts constructed along elevated positions of the mountains. The introduction of this improvement on the extensive scale has proved these facts, that not only the partially exhausted placers, but that the new mining ground which exists almost without limit, can be brought into productive operation; and as repeated washings are required before the ground can be so far exhausted that it will not yield a fair remuneration for labor, these resources, including operations connected with quartz mining, may be, therefore, considered permanent, with a certain prospect of increased production so soon as sufficient capital is brought to bear on the subject according to the system adopted by the Company.

QUARTZBURG, Mariposa County, Cal., May 20th, 1854.